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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,365	11/19/2003	Eric Bass	2069.012700/LE0042	6696
23720 7590 01/08/2008 WILLIAMS, MORGAN & AMERSON 10333 RICHMOND, SUITE 1100 HOUSTON, TX 77042			EXAMINER SINGH, RAMNANDAN P	
			ART UNIT 2614	PAPER NUMBER
			MAIL DATE 01/08/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<div style="border: 1px solid black; width: 150px; height: 20px; margin: 0 auto;"></div> Office Action Summary	Application No. 10/717,365	Applicant(s) BASS, ERIC	
	Examiner Ramnandan Singh	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-12 and 21-24 is/are rejected.
- 7) ☒ Claim(s) 13-20 and 25-31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. With the finding of new prior art, the Final rejection set forth in the Office action mailed on Oct 5, 2007 is withdrawn. Applicant's arguments filed on Dec 10, 2007 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

2. Claims 1 and 21 are objected to because of the following informalities:

Claim 1 recites "A method, comprising:" in line 1 and "said calibration comprises" in line 5. Since claim 1 is a method claim, it must have "comprising **steps of**:" or "comprises **steps of**:".

Claim 21 recites the limitation "adapted to" in line 4. In re Hutchinson, it has been held that an element 'adapted to' performing a function is not a positive limitation in any patentable sense but only requires the ability to perform. *In re Hutchinson*, 154 F.2d 135, 138 (CCPA 1946); 69 U.S.P.Q. 138. Also see MPEP § 2111.04.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-6, 8-9, 21--31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "A method, comprising:" in line 1 and "said calibration comprises" in line 5. Thus, claim 1 recites two transitional phrases: "comprising" and "comprises" to transition from a preamble to limitations. It is unclear where the transition takes place from a preamble to limitations. A similar thing holds for claims 9 and 21. Claims 2-6, 8 being dependent from claim 1, and claims 22-31 being dependent from claim 21 are also rejected. [See MPEP 2111.03]. For this Office action, Examiner assumes the second transitional phrase.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-5, 9 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Huang et al [US 20030076945 A1].

Regarding claim 1, Huang et al disclose a method for providing a differential signal; and performing a calibration of a gain of at least a portion of the differential

signal to affect the longitudinal balance associated with the differential signal [Para: 0013], as shown in Figs. 2-4, performing the calibration comprises:

receiving a first portion of the differential signal and determining a gain (G_t) associated with the first portion (Tip) [Fig. 2; Para: 0020];

receiving a second portion of the differential signal and determining a gain (G_r) associated with the second portion (Ring) [Fig. 2; Para: 0020];

determining a difference between the respective gains of the first and second portions to equalize the difference in gains if the difference is outside a predetermined range of tolerance [Fig. 2; Para: 0021-0022]; and

modifying at least one of the gain of the first portion and the gain of the second portion by adding an adjustable impedance element to one or both of the Tip or Ring signal paths if the difference is outside the predetermined range of tolerance [Figs. 2-4; Para: 0022-0023; 0028-0032; 0011; Abstract].

Regarding claim 9, Huang et al disclose an apparatus for providing a differential signal ; and means for calibrating a gain of at least a portion of the differential signal to affect a longitudinal balance associated with the differential signal [Fig. 2; Para: 0013], means for performing the calibration comprises:

means for receiving a first portion of the differential signal and determining a gain associated with the first portion (Tip line) [Fig. 2; Para: 0020];

means for receiving a second portion of the differential signal and determining a gain associated with the second portion (Ring line) [Fig. 2; Para: 0020];

means (22) for determining a difference between the respective gains of the first and second portions to equalize the difference in gains if the difference is outside a predetermined range of tolerance [Fig. 2; Para: 0021-0022]; and

means (variable impedances shown in Fig. 4) for modifying at least one of the gain of the first portion and the gain of the second portion by adding an adjustable impedance element to one or both of the Tip or Ring signal paths if the difference is outside the predetermined range of tolerance [Figs. 2-4; Para: 0022-0023; 0028-0032; 0011; Abstract].

Claim 21 is essentially similar to claim 1 and is rejected for the reasons stated above.

Regarding claim 2, Huang et al further disclose the method, wherein receiving the signal comprises receiving a telecommunications signal [Fig. 2].

Regarding claim 3, Huang et al further disclose the method, wherein receiving the telecommunications signal comprises receiving a tip and a ring signal [Fig. 2].

Regarding claims 4-5, the limitations are shown above.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
8. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al [US 20030076945 A1] in view of Sues et al [US 4,910,768].

Regarding claim 10, Huang et al disclose an apparatus for determining a difference between the gain of the first portion of the differential output signal and a second portion of the differential output signal [Fig. 2; Para: 0021-0022]; and adjusting at least one of a gain associated with the first portion of the differential output signal and a gain associated with the second portion of the differential output signal by adding an adjustable impedance element to one or both of the Tip or Ring signal paths if the difference is outside the predetermined range of tolerance [Figs. 2-4; Para: 0022-0023; 0028-0032; 0013; Abstract].

Huang et al do not teach the apparatus having a first amplifier connected to a Tip line and a second amplifier connected to a Ring line to receive signals.

Sue et al teach Sues et al teach an automatic balancing circuit for longitudinal transmission system using balance measurements set [Fig. 2; col. 3, lines 61-67], the

apparatus comprising : a first amplifier (40) to receive a first portion of a differential signal (RING) and a second amplifier (39) to receive a second portion of the differential signal to generate a differential output signal using a summing circuit (12) [Figs. 2-3].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Sue et al with Huang et al in order to individually adjust the gain of the Tip line or the Ring line or both lines , as an alternative to adjusting the impedances of the lines of Huang et al.

Regarding claim 11, Huang et al further disclose the method, wherein receiving the signal comprises receiving a telecommunications signal [Fig. 2].

Regarding claim 12 , Huang et al further disclose the method, wherein receiving the telecommunications signal comprises receiving a tip and a ring signal [Fig. 2].

9. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang as applied to claim 21 above, and further in view of Sues et al Sues et al [US 4,910,768].

Regarding claim 22, Huang et al disclose an apparatus for determining a difference between the gain of the first portion of the differential output signal and a second portion of the differential output signal [Fig. 2; Para: 0021-0022]; and

adjusting at least one of a gain associated with the first portion of the differential output signal and a gain associated with the second portion of the differential output signal by adding an adjustable impedance element to one or both of the Tip or Ring signal paths if the difference is outside the predetermined range of tolerance [Figs. 2-4; Para: 0022-0023; 0028-0032; 0013; Abstract].

Huang et al do not teach the apparatus having a first amplifier connected to a Tip line and a second amplifier connected to a Ring line to receive signals.

Sue et al teach Sues et al teach an automatic balancing circuit for longitudinal transmission system using balance measurements set [Fig. 2; col. 3, lines 61-67], the apparatus comprising : a first amplifier (40) to receive a first portion of a differential signal (RING) and a second amplifier (39) to receive a second portion of the differential signal to generate a differential output signal using a summing circuit (12) [Figs. 2-3].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Sue et al with Huang et al in order to individually adjust the gain of the Tip line or the Ring line or both lines , as an alternative to adjusting the impedances of the lines of Huang et al.

Regarding claim 23, Huang et al further disclose the method, wherein receiving

the signal comprises receiving a telecommunications signal [Fig. 2].

Regarding claim 24 , Huang et al further disclose the method, wherein receiving the telecommunications signal comprises receiving a tip and a ring signal [Fig. 2].

10. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al as applied to claim 1 above, and further in view of IEEE Standard Test Procedures for Measuring Longitudinal Balance [ANSI/IEEE Std 455-1985].

Regarding claim 6, Huang et al disclose the method, wherein a difference between the respective gains of the first (i.e. TIP) and second (i.e. RING) portions is determined [Fig. 2; Para: 0021-0022].

However, Huang et al do not teach expressly using a test load.

IEEE Standard 455-1985 teaches standard test procedures for measuring and calibrating longitudinal balance of a telephone system using a standard driving test circuit, shown in Fig. 1, and a standard terminating test circuit shown in Fig. 2 [Sections 10-11; pages 13 -15]; wherein Appendix B teaches the basic balance calibration a resistive load [Fig. B1; pages 18-19].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of IEEE Standard 455-1985 with Huang et al to perform the basic balance calibration before any balance measurement is made [IEEE Standard 455-1985; Appendix B; page 18, right column, lines 18-21].

Regarding claim 8, IEEE Standard 455-1985 further teaches the method, wherein applying the test load comprises applying a resistive load [Fig. B1; Appendix B; Page 18].

Allowable Subject Matter

11. Claims 13-20 and 25-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Dependent claim 13 recites the apparatus further comprising, and limitations for the following: "a third amplifier to provide the gain associated with the first portion of the differential output signal; a fourth amplifier to provide the gain associated with the second portion of the differential output signal; a first current source electrically coupled to the third amplifier and to the calibration unit, the calibration to control the gain associated with the first portion of the differential output signal by controlling the first current source; and a second current source electrically coupled to the fourth amplifier and to the calibration unit, the calibration to control the gain associated with the second

portion of the differential output signal by controlling the second current source". The prior art of record does not teach these limitations. Therefore, claim 13 is objected to. Claim 25 is essentially similar to claim 13 and is also objected to for the reasons stated above.

Dependent claim 14 recites the apparatus further comprising, and limitations for the following: "wherein the third amplifier, fourth amplifier, first current source, second current source, and the calibration unit are housed in a subscriber line interface circuit (SLIC)". The prior art of record does not teach these limitations. Therefore, claim 14 is objected to. Claim 26 is essentially similar to claim 14 and is also objected to for the reasons stated above.

New search updates revealed no other prior art which teaches the limitations in the context of the claims.

Claims 15-20 being dependent from claim 14 and claims 27-31 being dependent from claim 26 are objected to.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(i) Grandstaff, "Longitudinal Balance Measurement of Central Office Equipment", IEEE Tran. On Comm. Vol. COM-20, No. 3, June 1972, pages 382-391] discloses a standard method to measure Longitudinal balance [Whole document]; and

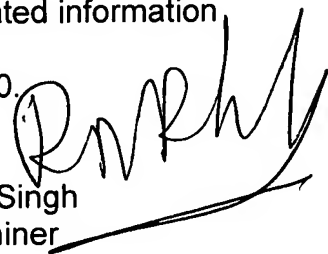
(ii) Hein et al [US 20070003052 A1] disclose a subscriber line interface circuit

(SLIC) with a common base audio isolation stage [Figs. 1 through 5B; Para: 0029 thru 0048].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (571) 272-7529. The examiner can normally be reached on M-TH (8:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on (571) 272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Ramnandan Singh
Primary Examiner
Art Unit 2614